Alpha-2-Macroglobulin Therapies and Drug Screening Methods for Alzheimer's Disease

Abstract

The disclosed invention relates to the finding that the *A2M-2* deletion mutation, which is a predisposing factor for Alzheimer's Disease, leads to the production of altered α_2M RNA transcripts and proteins. Based on this finding, the invention provides for new therapeutic agents for AD, including molecules having Aβ and low density lipoprotein receptor-related protein (LRP) binding domains, peptides, nucleic acid molecules, antisense oligonucleotides, and viral vectors for gene therapy. In addition, the invention relates to pharmaceutical compositions containing these therapeutic agents, methods of using these therapeutic agents to combat Alzheimer's Disease, and methods of screening for therapeutic agents that can combat Alzheimer's Disease.